PROPOSED CLAIM AMENDMENTS FOR ENABLING EXAMINER'S AMENDMENT

1. (Currently Amended) In a computer-implemented graphical modeling and execution environment, a method comprising:

displaying a model view of a model being executed, the model view graphically depicting a plurality of components of the model, the model view including one or more iconic blocks, the model and the one or more iconic blocks associated with a plurality of object methods;

displaying an execution list view depicting a listing of names of a plurality of object methods called during an execution of a time step of the model until a specified point in execution of the time step, the object methods associated with the model and the one or more iconic blocks and implementing procedures being called during the execution of the model and the one or more iconic blocks, the execution list view being dynamically updated during a simulation of the model; and

indicating visually on the model view a state of at least one method depicted in the updated execution list view at the specified point in the time step, wherein the execution list view and the model view are visually represented concurrently at the specified point in the time step so that the model view reflects changes in the execution list view.

2. (Previously Presented) The method of claim 1, further comprising:

displaying a visual indicator indicating an association between an executing block method and a calling block on the model view.

3. (Previously Presented) The method of claim 1, further comprising:

displaying a visual indicator indicating an association between a currently executing system method and a subsystem block owner of the currently executing system method on the model view.

4. (Previously Presented) The method of claim 1, further comprising:

creating a visual representation of a model component not previously displayed in the model view, the model component calling a method; and

displaying a visual indicator indicating an association between the visual representation of the model component not previously displayed and the method called by the model component.

5. (Previously Presented) The method of claim 1, further comprising:

extending a visual indicator from an originating point to a first called method depicted in the model view; and

extending sequentially the visual indicator to at least one subsequently called method depicted in the model view during a time step in the execution.

6. (Previously Presented) The method of claim 5, further comprising:

indicating a type of method executing in the model view.

7. (Previously Presented) The method of claim 6 wherein indicating includes providing a visual indication of the type of method executing in the model view.

8. (Previously Presented) The method of claim 7 wherein the visual indication is made by at least one of altering the color of a portion of a model component in the model view representing the method or inserting a geometric design in a model component displayed in the model view.

9. (Previously Presented) The method of claim 1 wherein at least one visible breakpoint is set in the model view.

10. (Currently Amended) The method of claim 9 wherein the at least one visible breakpoint[[s]] are-is a conditional breakpoint[[s]].

11. (Currently Amended) The method of claim 1, further comprising:

arranging the execution list view to show the object methods executed in a current time step in the execution of the model in a tree structure.

12. (Previously Presented) The method of claim 1 wherein at least one visible breakpoint is set in the execution list view.

13. (Currently Amended) The method of claim 12 wherein the <u>at least one visible</u> breakpoint[[s]] ~~are~~ <u>is a</u> conditional breakpoint[[s]].

14. (Previously Presented) The method of claim 1, further comprising:

setting at least one of a trace point or a display point in at least one of the model view or the execution list view.

15. (Previously Presented) The method of claim 1, further comprising:

generating at least one of debugging data and profiling data during the execution of the model;

associating the at least one of debugging data and profiling data with at least one of the components of the model; and

visually indicating the associated data in the model view.

16. (Previously Presented) The method of claim 15 wherein the associated data includes solver data.

17. (Previously Presented) The method of claim 1 wherein the model view is interfaced with a debugger and further comprising:

generating debugging data with the debugger during the execution of the model;

associating the debugging data with at least one component of the plurality of components of the model; and

visually indicating the associated data in the execution list view.

18. (Previously Presented) The method of claim 17, further comprising:

indicating visually in the execution list view a number of iterations of at least one component in the plurality of model components during a time step in the execution.

19. (Previously Presented) The method of claim 1, further comprising:

receiving a speed parameter via a control associated with the model view; and

executing the model in the model view based on the speed parameter.

20. (Previously Presented) The method of claim 1, further comprising:

 receiving a speed parameter via a control associated with the execution list view; and

 executing the model in the execution list view based on the speed parameter.

21. (Previously Presented) The method of claim 1, further comprising:

 receiving input from an input device in the graphical modeling and execution environment, the input being interpreted by the graphical modeling and execution environment as a speed parameter; and

 executing the model in the execution list view based on the speed parameter.

22. (Previously Presented) The method of claim 1, further comprising:

 altering at least one of a model component or a connection between the model components; and

 adjusting at least one of the execution list view and the model view to indicate the effects of the altering.

23. (Currently Amended) The method of claim 22 wherein the altering ~~step~~ includes at least one of adding or removing of at least one of model components and a connection between the model components.

24. (Previously Presented) The method of claim 1, further comprising:

 displaying elements of a compiled state of the model in the model view.

25. (Previously Presented) The method of claim 1, further comprising:

 displaying debug information in the model view as a tool tip over a component of the model in response to input.

26. (Previously Presented) The method of claim 25 wherein the displayed debug information indicates a signal value of a signal line in the model view.

27. (Previously Presented) The method of claim 25 wherein the displayed debug information is made persistent in the model view.

28. (Previously Presented) The method of claim 27 wherein the displayed debug information is updated in response to the execution of the model.

29. (Previously Presented) The method of claim 1, further comprising:

    displaying debug information in the execution list view as a tool tip in response to a movement of a pointing device in the execution list view over a component of the model associated with the debug information.

30. (Previously Presented) The method of claim 29 wherein the displayed information is made persistent in the execution list view.

31. (Previously Presented) The method of claim 30 wherein the displayed information is updated in response to the execution of the model.

32. (Currently Amended) The method of claim 1, further comprising:

    filtering the displayed execution list of names of the plurality of object methods in the execution list view so that only names of object methods satisfying a user-specified criteria are displayed.

33. (Previously Presented) The method of claim 1, further comprising:

    creating a record for a unique method invocation; and

    displaying data associated with the unique method invocation as the unique method invocation is called.

34. (Previously Presented) The method of claim 33, further comprising

    anchoring the record to a block owner of the unique method invocation in the model view.

35. (Previously Presented) The method of claim 33, further comprising:

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displaying a calling of the unique method invocation with varying degrees of intensity representative of a frequency of the invocation.

36. (Previously Presented) The method of claim 33, further comprising:

creating a unique method invocation for an execution exception event.

37. (Currently Amended) The method of claim 1 wherein at least one non-visible breakpoint[[s]] are-is set in at least one of the model view or the execution list view.

38. (Previously Presented) The method of claim 1 wherein at least one of a set of debugging data or a set of profiling data is displayed in a separate view.

39. (Currently Amended) One or more computer-readable media holding-storing computer-executable instructions for performing debugging in a graphical modeling and execution environment on an electronic device, the media comprising one or more instructions for:

displaying a model view of a model being executed, the model view graphically depicting a plurality of components of the model, the model view including one or more iconic blocks, the model and the one or more iconic blocks associated with a plurality of object methods;

displaying an execution list view depicting a listing of names of a plurality of object methods called during an execution of a time step of the model until a specified point in execution of the time step, the object methods associated with the model and the one or more iconic blocks and implementing procedures being called during the execution of the model and the one or more iconic blocks, the execution list view being dynamically updated during a simulation of the model; and

indicating visually on the model view a state of at least one method depicted in the updated execution list view at the specified point in the time step, wherein the execution list view and the model view are visually represented concurrently at the specified point in the time step so that the model view reflects changes in the execution list view.

40. (Previously Presented) The media of claim 39, wherein the media further comprises one or more instructions for:

displaying a visual indicator indicating an association between an executing block method and a calling block on the model view.

41. (Previously Presented) The media of claim 39, wherein the media further comprises one or more instructions for:

displaying a visual indicator indicating an association between a currently executing system method and a subsystem block owner of the currently executing system method on the model view.

42. (Previously Presented) The media of claim 39, wherein the media further comprises one or more instructions for:

extending a visual indicator from an originating point to a first called method depicted in the model view; and

extending sequentially the visual indicator to at least one subsequently called method depicted in the model view during a time step in the execution.

43. (Previously Presented) The media of claim 42, wherein the visual indicator is extended to a virtual subsystem depicted in the model view.

44. (Previously Presented) The media of claim 42, wherein the media further comprises one or more instructions for:

instructions for indicating a type of method executing in the model view.

45. (Previously Presented) The media of claim 44 wherein indicating includes providing a visual indication of the type of method executing in the model view.

46. (Previously Presented) The media of claim 45 wherein the visual indication is made by at least one one of altering the color of a portion of a model component in the model view representing the method or inserting a geometric design in a model component displayed in the model view.

47. (Previously Presented) The media of claim 39 wherein at least one visible breakpoint is set in the model view.

48. (Currently Amended) The media of claim 47 wherein the at least one visible breakpoint[[s]] are-is a conditional breakpoint[[s]].

49. (Currently Amended) The media of claim 39, wherein the media further comprises one or more instructions for:

arranging the execution list view to show the object methods executed in a current time step in the execution of the model in a tree structure.

50. (Previously Presented) The media of claim 39 wherein at least one visible breakpoint is set in the execution list view.

51. (Currently Amended) The media of claim 50 wherein the at least one visible breakpoint[[s]] are-is a conditional breakpoint[[s]].

52. (Previously Presented) The media of claim 39, wherein the media further comprises one or more instructions for:

setting at least one of a trace point and a display point in at least one of the model view and the execution list view.

53. (Previously Presented) The media of claim 39, wherein the media further comprises one or more instructions for:

generating at least one of debugging data or profiling data during the execution of the model;

associating at least one of the debugging data or profiling data with at least one of the components of the model; and

visually indicating the associated data in the model view.

54. (Previously Presented) The media of claim 53 wherein the associated data includes solver data.

55. (Previously Presented) The media of claim 39, wherein the medium further comprises one or more instructions for:

      generating debugging data during the execution of the model;

      associating the debugging data with at least one component of the plurality of components of the model; and

      visually indicating the associated data in the execution list view.

56. (Previously Presented) The media of claim 55, wherein the media further comprises one or more instructions for:

      indicating visually in the execution list view a number of iterations of at least one component of the plurality of model components during a time step in the execution.

57. (Previously Presented) The media of claim 39, wherein the media further comprises one or more instructions for:

      receiving a speed parameter via a control associated with the model view; and

      executing the model in the model view based on the speed parameter.

58. (Previously Presented) The media of claim 39, wherein the media further comprises one or more instructions for:

      receiving a speed parameter via a control associated with the execution list view; and

      executing the model in the execution list view based on the speed parameter.

59. (Previously Presented) The media of claim 39, wherein the media further comprises one or more instructions for:

      receiving input from an input device in the graphical modeling and execution environment, the input being interpreted by the graphical modeling and execution environment as a speed parameter; and

      executing the model in the execution list view based on the speed parameter.

60. (Previously Presented) The media of claim 39, wherein the media further comprises one or more instructions for:

altering at least one of the model components or a connection between the model components; and

adjusting at least one of the execution list view or the model view to indicate the effects of the altering.

61. (Currently Amended) The media of claim 60, wherein the altering ~~step~~ includes at least one of adding or removing of at least one of model components or a connection between the model components.

62. (Previously Presented) The media of claim 39 wherein the media further comprises one or more instructions for:

displaying elements of the compiled state of the model in the model view.

63. (Previously Presented) The media of claim 39, wherein the media further comprises one or more instructions for:

displaying debug information in the model view as a tool tip over a component of the model in response to input.

64. (Previously Presented) The media of claim 63 wherein the displayed debug information indicates a signal value of a signal line in the model view.

65. (Previously Presented) The media of claim 63 wherein the displayed debug information is made persistent in the model view.

66. (Previously Presented) The media of claim 65 wherein the displayed debug information is updated in response to the execution of the model.

67. (Previously Presented) The media of claim 39, wherein the media further comprises one or more instructions for:

displaying debug information in the execution list view as a tool tip in response to a movement of a pointing device in the execution list view over a component of the model associated with the debug information.

68. (Previously Presented) The media of claim 67 wherein the displayed information is made persistent in the execution list view.

69. (Previously Presented) The media of claim 68 wherein the displayed information is updated in response to the execution of the model.

70. (Currently Amended) The media of claim 39, wherein the media further comprises one or more instructions for:

      filtering the displayed execution list of names of the plurality of object methods in the execution list view so that only names of object methods satisfying a user-specified criteria are displayed.

71. (Previously Presented) The media of claim 39, wherein the media further comprises one or more instructions for:

      creating a record for a unique method invocation; and

      displaying data associated with the unique method invocation as the unique method invocation is called.

72. (Previously Presented) The media of claim 71, wherein the media further comprises one or more instructions for:

      anchoring the record to a block owner of the unique method invocation in the model view.

73. (Previously Presented) The media of claim 71, wherein the media further comprises one or more instructions for:

      displaying a calling of the unique method invocation with varying degrees of intensity representative of a frequency of the invocation.

74. (Previously Presented) The media of claim 71, wherein the unique method invocation is for an execution exception event.

75. (Currently Amended) The media of claim 39 further comprising one or more instructions for:

setting at least one non-visible breakpoint[[s]] in at least one of the model view or the execution list view.

76. (Previously Presented) The media of claim 39 wherein at least one of a set of debugging data or a set of profiling data are displayed in a separate view.

77. (Currently Amended) A system for performing debugging in a graphical design environment, the system comprising:

a processor configured to gather debug information from the simulation of a model in the graphical design environment; and

a display device displaying:

a model view, the model view depicting a plurality of components of a model, the model view including one or more iconic blocks, the model and the one or more iconic blocks associated with a plurality of object methods; and

an execution list view, the execution list view depicting a listing of names of a plurality of object methods called during the execution of a time step of the model until a specified point in execution of the time step, the object methods associated with the model and the one or more iconic blocks and implementing procedures being called during the execution of the model and the one or more iconic blocks, a state of at least one method depicted in the execution list view being visually represented on the model view, wherein the execution list view and the model view are visually represented concurrently at the specified point in the time step so that the model view reflects changes in the execution list view.

78. (Previously Presented) The system of claim 77, further comprising:

a visual indicator indicating a currently executing method on the model view.

79. (Currently Amended) The system of claim 78 wherein the visual indicator sequentially extends to denote a sequence of object methods executing on the model view.

80. (Previously Presented) The system of claim 77 wherein at least one of breakpoints, conditional breakpoints, display points or trace points are set in the model view.

81. (Previously Presented) The system of claim 77 wherein at least one of breakpoints, conditional breakpoints, display points or trace points are set in the execution list view.

82. (Previously Presented) The system of claim 77 wherein a visual indicator is used to indicate a type of executing method displayed in the model view.

83. (Previously Presented) The system of claim 82 wherein the visual indicator is one of color or a geometric pattern.